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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,601	11/21/2001	John E. Krech	57135US002	3879
32692	7590	11/30/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			AUGHENBAUGH, WALTER	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	

1772

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/990,601

Applicant(s)

KRECH ET AL.

Examiner

Walter B Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2004 and 26 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 30,32-37,46-53 and 55-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30,32-37,46-53 and 55-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 26, 2004 (Amdt. E) has been entered.

### ***Acknowledgement of Applicant's Amendments***

2. The amendment made in claim 32 in the Amendment filed August 26, 2004 (Amdt. E) has been received and considered by Examiner.
3. New claim 62 presented in Amdt. E has been received and considered by Examiner.

## **REPEATED REJECTIONS**

4. The 35 U.S.C. 103 rejections of claims 30, 32-37, 46-53 and 55-61 made of record in paragraphs 11-15 of the Final Rejection dated June 30, 2004 have been repeated for the reasons previously made of record in paragraphs 11-15 of Final Rejection dated June 30, 2004.

## **NEW REJECTIONS**

### ***Claim Rejections - 35 USC § 112***

5. Claim 62 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 62 recites the limitation "said container" in the tenth line of the claim. There is insufficient antecedent basis for this limitation in the claim. The words "mildewcides" and "antiseptics" are misspelled in claim 62; note the correct spelling of these words in claim 61.

Claim 61 recites “germicides” and claim 62 recites “germocides”; please choose one spelling to avoid confusion in interpreting the claim.

***Claim Rejections - 35 USC § 103***

6. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Ueeda et al. and in further view of Dyckman et al.

Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the plastic article comprises an antimicrobial additive (the diguanamines having antifouling property, col. 3, lines 43-47) and that the antimicrobial additive is integrally associated with the plastic article since the antimicrobial additive is incorporated into the resin blend (col. 19, lines 1-5 and 10-11).

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet, that the antimicrobial additive is selected from the Markush group recited in claim 62 and that the antimicrobial additive is substantially insoluble in water.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant

characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

Ueeda et al. disclose a propylene based polymer sheet that may be blended with another resin that is formed into a container or a pallet that comprises an antimicrobial agent (col. 9, lines 23-43). Ueeda et al. disclose that the antimicrobial additive is integrally associated with the container since Ueeda et al. disclose that the antimicrobial agent is blended with the resin (col. 9, lines 23-43). Therefore, one of ordinary skill in the art would have recognized to have added an antimicrobial agent to the composition of Oishi et al. such that the antimicrobial additive is integrally associated with the container since it is notoriously well known to include antimicrobial agents that are integrally associated with the container in polypropylene based polymeric blends that are formed into containers or pallets as taught by Ueeda et al.

Dyckman et al., furthermore, disclose a biocidal polymer such as an epoxy resin that is chemically combined with a biocidal, antifouling organic tin moiety (col. 1, lines 6-13, col. 3, lines 47-68 and col. 5, lines 35-38). Dyckman et al. disclose that the leaching of organometallic antifouling salts (such as organotin salts), which introduces toxic metallic compounds to water environments, is reduced by using less water-soluble homologs of the organometallic antifouling salts (col. 2, lines 8-55). The biocidal polymer that is chemically combined with a biocidal, antifouling organic tin moiety is a biocide. One of ordinary skill in the art would have recognized to have included the biocide of Dyckman et al. in the composition of Oishi et al. in order to

reduce the leaching rate of organometallic salts and to thus reduce the release of toxic metallic compounds as taught by Dyckman et al.

Furthermore, since Dyckman et al. teaches that the antifouling organic tin moiety is biocidal, Dyckman et al. establishes that antifouling agents are biocides. Therefore, one of ordinary skill in the art would have recognized that the diguanamines having antifouling property of Oishi et al. are biocides.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al., to have added an antimicrobial agent to the composition of Oishi et al. such that the antimicrobial additive is integrally associated with the container since it is notoriously well known to include antimicrobial agents that are integrally associated with the container in polypropylene based polymeric blends that are formed into containers or pallets as taught by Ueeda et al. and to have included the biocide of Dyckman et al. in the composition of Oishi et al. in order to reduce the leaching rate of organometallic salts and to thus reduce the release of toxic metallic compounds as taught by Dyckman et al.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention that the diguanamines having antifouling property of Oishi et al. are biocides.

#### ***ANSWER TO APPLICANT'S ARGUMENTS***

7. In the first paragraph of page 7 of Amdt. E, Applicant incorrectly states that the new rejections that were made of record in the Final Rejection mailed June 30, 2004 "were not necessitated by amendment of the application by Applicant". Independent claim 30 of the

amendment filed April 16, 2004 requires that "all of the flame retardant(s)" are non-halogenated, as opposed to previous versions of the independent claim that required that only one flame retardant of a group of flame retardants (in situations where there is a group of flame retardants) be non-halogenated. Paragraph 5 of the Final Rejection mailed June 30, 2004 states "The 35 U.S.C. 102 rejection of claims 30-32 that was repeated in paragraph 6 of Paper 16 has been withdrawn due to Applicant's amendments in claim 30 in Amdt. D": the rejection of claims 30-32 as anticipated by Nagano et al. was withdrawn because Nagano et al. requires a halogenated flame retardant. Paragraph 6 of the Final Rejection mailed June 30, 2004 states "The 35 U.S.C. 102 rejections of claims 30, 32, 34-37, 47, 49-53 and 55-61 made of record in paragraphs 13 and 14 of Paper 16 have been withdrawn due to Applicant's amendments in claim 30 in Amdt. D": the rejection of these claims as anticipated by Oishi et al. was withdrawn because Oishi et al. fail to explicitly teach that the plastic article of Oishi et al. is a pallet, as stated in paragraph 11 of the Final Rejection mailed June 30, 2004. The new rejections were made because of the new requirements of claim 30 that "all of the flame retardant(s)" are non-halogenated and that the container as previously claimed by Applicant be a pallet, so the new grounds of rejection presented in the Final Rejection mailed June 30, 2004 were indeed necessitated by Applicant's amendments in the amendment filed April 16, 2004. Form paragraph 7.39 was inadvertently left out of the Office Action, but as explained above, the Office Action clearly points to the fact that the new grounds of rejection presented in the Office Action were necessitated by Applicant's amendments.

8. Applicant's arguments on pages 7-12 of Amdt. E regarding the 35 U.S.C. 103 rejection of claims 30, 32, 34-37, 47, 49-53, 55 and 57-61 have been fully considered but are not persuasive.

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Applicant takes issue with the argument on “page 10, lines 10-14” of the Office Action that uses the phrase “sufficient overlap”: the diguanamines of the Second Invention of Oishi et al. are the diguanamines of the Third Invention of Oishi et al., and in the discussion of the Second Invention of Oishi et al., Oishi et al. explicitly teach that the diguanamines are flame-retardant, so the diguanamines of the Third Invention (which are the same as the diguanamines of the Second Invention) are necessarily flame retardant. The phrase “sufficient overlap” refers to this fact.

A blend of one or more polyolefin resin/s and a one or more thermosetting resin/s is explicitly taught at col. 29, lines 1-6 of Oishi et al. Rubbers are thermosetting resins.

Applicant states on page 9 of Amdt. E that col. 29, lines 6-56 “lists many thermoplastic resins, and concludes on lines 55-56 with ‘blends, block copolymers, graft copolymers, and rubber-modified polymers of these resins’”: rubbers are thermosetting resins, so this portion of Oishi et al. that Applicant cites is an explicit teaching of a blend of thermoplastic resin/s and thermosetting resins, and this portion is a repetition of what is stated at col. 29, lines 1-6. The teaching at col. 29, lines 55-56 clarifies what is meant by that which is stated at col. 29, lines 1-6.

In regard to Applicant’s discussion on page 10 of Amdt. E regarding claim 59, as indicated in the rejection of this claim, the scope delineated by Applicant’s originally filed definition of “semi-interpenetrating polymer network” includes polymer blends. Applicant’s discussion on page 10 of the Amdt. E supports this position: Applicant describes a semi-interpenetrating polymer network as “having one polymer interwoven with the other”, and this cited phrase would be accurately used to describe many polymer blends.

In regard to Applicant’s argument regarding claims 32, 52 and 53, Oishi et al. teaches blending thermoplastic resins with thermosetting resins at col. 29, lines 1-6, and epoxy resin is



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provided as an example thermosetting resin at col. 29, lines 61-62. In regard to Applicant's argument regarding claims 34, 47 and 51, Oishi et al. teaches the combination of glass beads with the flame retarding diguanamines (the diguanamines of the Second Invention are the same as the diguanamines of the Third Invention) at col. 32, line 51-col. 33, line 2, so Oishi et al. teaches that the glass beads are used in combination with the diguanamines regardless of form of the article that is formed from the polymeric composition of Oishi et al. Oishi et al. teach the composition claimed in claims 49 and 50 (except for the relative amounts) (col. 29, lines 1-6).

9. Applicant's arguments on pages 12-13 of Amdt. E regarding the 35 U.S.C. 103 rejection of claim 33 have been fully considered but are not persuasive. Applicant argues that "Applicant is using the word "structural" in accordance with the dictionary definition that has been made of record that defines the word as a weight-bearing part", but the application as originally filed does not limit the term "structural" to the definition to which Applicant refers.

10. Applicant's arguments on pages 13-14 of Amdt. E regarding the 35 U.S.C. 103 rejection of claim 46 have been fully considered but are not persuasive. Applicant's arguments depend entirely upon Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 30, 32, 34-37, 47, 49-53, 55 and 57-61 that have been addressed above.

11. Applicant's arguments on pages 14-15 of Amdt. E regarding the 35 U.S.C. 103 rejection of claim 48 have been fully considered but are not persuasive. Applicant's arguments depend entirely upon Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 30, 32, 34-37, 47, 49-53, 55 and 57-61 that have been addressed above.

12. Applicant's arguments on pages 15-16 of Amdt. E regarding the 35 U.S.C. 103 rejection of claim 56 have been fully considered but are not persuasive. Applicant's argues "Contrary to

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the rejection statement (page 10, lines 3-5) Oishi et al. does not teach a pallet”, but the rejection states “the pallet of Oishi et al. and Endo et al.”, i.e. the pallet taught by Oishi et al. and Endo et al.”. The 103 rejection of claim 30 acknowledges that Oishi et al. fail to explicitly teach a pallet, but that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al. Applicant’s argument that “It is not expected that a coating will add structural support to an article” is irrelevant to the rejection of claim 56.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

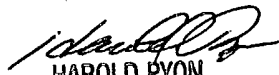
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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh

11/24/04

WBA

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

11/26/04